The Boston Medical and Surgical Journal

TABLE OF CONTENTS

February 12, 1920

ADDRESS

The Present Needs of the Tuberculosis Campaign. *By John B. Hawes, 2nd, M.D.,* Boston. 161

ORIGINAL ARTICLES

Diet Reduction with Retention of Protein to Relieve Glycosuria in Diabetes Mellitus. *By R. L. Fenlon, Ph.G., M.D.,* Iowa City, Iowa. 168
The Pathology of "Influenzal Pneumonia." *By Frank P. McNamara, M.D.,* New Haven, Conn. 171
The Possibilities of Carrel-Dakin Technique in Civil Life. *By Allen G. Rice, M.D.,* Springfield, Mass. 174

CLINICAL DEPARTMENT

The Treatment of Chronic Ulcers. *By Frank E. Stowell, M.D.,* Worcester, Mass. 176
An Unusual Case of Metacarpal Fracture. *By S. S. Dearborn, M.D.,* Nashua, N. H. 178

EDITORIALS

Income Tax Computation 180
Postgraduate Medical Instruction at the University of Wisconsin. 181

THE MASSACHUSETTS MEDICAL SOCIETY

Report of the Joint Committee on State and National Legislation. 182
Hampshire District Medical Society. 184
News Items 184

CORRESPONDENCE

Maternity Benefits. *G. E. Whitehill, M.D.* 184
A Physician Needed. *John B. Watson.* 185

MISCELLANY

United States Civil Service Examination. 185
Notes, Recent Deaths, etc. 186

Address.

THE PRESENT NEEDS OF THE TUBERCULOSIS CAMPAIGN.*

By John B. Hawes, 2d, M.D., Boston.

We are going through an age of reconstruction. Our problem is not confined, however, to the reconstruction of maimed and sick men, but involves as well the reconstruction of our ideas and our theories. The war has taught us many things, not only about war itself but about things of even greater importance than this, concerning ourselves, our standards and methods of living, our ideas and our ideals. It has taught us that we have much yet to learn in handling disease and medical problems, and especially is this true in regard to tuberculosis. While our ideals will remain the same our ideas must change to suit the times. We have fought and conquered the Hun, to make the world a decent and safe place in which to live. Now, let us attack this other enemy, tuberculosis, with equal vigor and determination, in order to make the world not only a decent but a healthy place in which to live. It is right and proper, then, that at the annual meeting of such an association as this, a nation-wide group of earnest men and women, that we take a survey of our present situation and inspect fearlessly and impartially our methods and means of offence and defence against this nation-wide scourge.

It was recently quoted in a medical journal that 22% of all the men disabled for whatsoever cause from the United States Army or Navy were so disabled on account of tuberculosis. While I do not for a minute believe that this figure is correct or that the actual proportion of men incapacitated on account of tuberculosis was as high as this, the incidence of tuberculosis in the Army and Navy was sufficiently great as to merit grave consideration. But I am unwilling to call the situation created by the discovery of this large number of tuberculous men a "war" tuberculosis problem. It is a problem that has been with us, and will remain with us in times of peace as well as in war; it is simply one of many that have been vividly called to our attention by the present emergency.

TUBERCULOSIS SURVEYS.

There are two points that appear to me as especially worthy of mention. One of these is that we have reached the time when we must quit our present attitude of waiting for the tuberculous patient to turn up; waiting for the physician to report this or that case, or waiting until the patient himself comes to the dispensary for help and advice. This policy of watchful waiting must be abandoned as it was finally abandoned in the United States. A more aggressive policy must be instituted. We must seek out the patient; we must find him and force him, even against his will, to take proper measures to protect himself and the community. We must take measures, harsh ones if necessary, to stimulate and prod the medical profession and boards of health into greater activity.

---

* Address delivered at the meeting of the Canadian Tuberculosis Association, Ottawa, Canada, Oct. 9, 1919.

Some fifteen years ago, when I first started in tuberculosis work in the Out-Patient Department of the Massachusetts General Hospital, I found the tuberculous patient to be the stray dog of the clinic; an unwelcome guest, to be kicked here and there, and to be gotten rid of as soon as possible. He was given a prescription for some cough medicine or a tonic, and was told to return in a few weeks, the interval usually made as long as possible. As far as I could, I did my best to change this, and instead of encouraging the patient to stay away I encouraged him to return, and, in many cases, against his own will, persuaded him to do what was necessary for his health. In a very modest medical article, the first one I ever wrote, I decribed my efforts. Dr. Richard Cabot suggested to me the title, which I liked, and which I have thought of many times, *i.e.*, "The Aggressive Treatment of Pulmonary Tuberculosis." We must adopt this aggressive attitude toward our problem. We must not wait until the problem is at our doors, until it comes to us, but we must take the initial step and go out after it.

How can we best do this? Every wise leader before a battle or conflict of any kind does his best to find out the strength of the enemy, not in vague generalities but in actual facts and figures. Too much have we in the tuberculosis campaign dealt in vague generalities. We have taken the reports of local boards of health, for instance, at their face value. Because few cases were reported in any given community we have taken it for granted that there were few consumptives in that community. Because a certain town or city was rich, prosperous, and had little or no tenement life in its midst, we have taken it for granted that there was and could be no consumption. We must change our minds as to this. Because a certain city in my own state has built and maintains an excellent tuberculosis hospital, the beds of which have never been more than three-quarters filled, we have taken it for granted that this city was more than doing its duty as far as tuberculosis was concerned. The city finally asked for a survey in order to obtain more money from the state for the support of its tuberculous patients. The result of this survey demonstrated the fact, beyond the shadow of a doubt, that while the hospital was an excellent one and the patients given the best of cure, and while there was an excellent tuberculosis dispensary with high grade physicians in attendance, the city was not meeting or nearly meeting its problem. Over 50 patients were found, who had kept at their work in factories and mills until within one month of their death from consumption, and over 150 who remained at work until within three months of their death. The beds in the local hospital had remained vacant, not because there were no patients to fill them, but because these patients were not aggressively sought after and sent to the hospital. The patients were there in the city, urgently in need of treatment, many of them known to the health authorities, and the vast majority of them known to their local physicians, but because no one had come to them and had worked with them and finally persuaded them that they were in need of hospital or sanatorium treatment they had remained in their homes and had not only died there but had given the disease to many others about them. Therefore, I would urge upon you that in the community in which you live, wheresoever it is, be it large or small, urban, suburban, or rural, rich or poor, agricultural or industrial, you first find out exactly the size and extent of your tuberculosis problem; that you take nothing for granted; that you discard all the facts and figures that you have at present and that you get to work and really find out conditions as they are. I guarantee that you will be surprised and, I fear, in many cases, dismayed and discouraged at the results. You will find tuberculosis lurking in places where you had no idea that the disease could exist; you will find it among the rich; you will find it in factories and shops of the very highest grade, and often you will not find it where you most expect to find it. Such surveys have a most wholesome effect upon us all who are engaged in this work. In terms of money they need not be expensive. The essentials of such a survey are first, a wise and tactful physician who knows how to conduct it properly; second, a nurse or corps of nurses who can go into the homes of the people and make a house to house canvass; third, some one who can tabulate and arrange the facts and figures obtained from such a survey and who can make proper deductions therefrom, and finally, a public opinion properly educated and developed, which will see the need of such a survey and which will coöperate with you and not oppose your efforts. Such a health survey, then, which is by all means the best method we possess of finding out the extent of our problem, is one of the present needs of our tuberculosis campaign.

STANDARDS IN DIAGNOSIS AND TREATMENT.

My second point may appear to you unnecessary or even trivial and absurd. It is this, that we come to some definite unanimity of opinion as to what constitutes tuberculosis. This, you will probably say, is a problem for the medical profession to decide. Quite true, but until the medical profession has decided and taken action upon this point there will be confusion in our efforts and injustice and wrong done to many patients. I am firmly convinced that in this city, as in Boston, I could take a patient with certain history, signs, and symptoms, to nearly a dozen different physicians, each of high standing, each above the average skill in the diagnosis of tuberculosis, and get as many different opinions. One would say that the patient did not have tuberculosis; another might say that he had tuberculosis but that it was not active; another that it was active tuberculosis; one that the outlook was good; another that the outlook was bad; one that the patient needed home treatment; one that he needed hospital treatment; and one that he needed sanatorium treatment. There undoubtedly would be one who would say that he needed no treatment at all. As long as this state of affairs exists, and to a greater or less degree it does exist in every medical community, we are not going to get the results which we should. We can standardize our hospitals, our sanatoria, and our dispensaries, but can we standardize our brains? Unfortunately no, but we at least can standardize the methods by means of which the medical brain arrives at medical conclusions. This lack of agreement as to methods of diagnosis has been strikingly demonstrated in the American Army and I am sure that it holds true in the Canadian Army as well. At one camp or cantonment where the medical officer in charge of the tuberculosis work was an x-ray enthusiast the rejections on account of tuberculosis were largely based on x-ray evidence. In another camp where there were equally high grade men but with different ideas the x-ray evidence was to a large extent discarded and the decision of these problems rested on clinical evidence alone. Some men were discharged for tuberculosis with a diagnosis based purely on the signs in the lungs and symptoms related to the lungs, while in other cases the same diagnosis was made and the same course of action taken when the findings in the lungs were practically negative and the diagnosis based on entirely different evidence.

This is not as it should be. I can assure you that the confusion as a result of this lack of any standardization of methods in the Army and the injustice which has been done to many men exists just as much in our civil life today as it does in the Army and Navy. For years I have struggled against this difference of opinion and the resulting chaos in my own mind and among my patients in Boston. I do not for an instant claim that my own ideas have been right and the ideas of my confreres have been wrong, but I simply know that there has been very little in common among us in regard to the early diagnosis of pulmonary tuberculosis. Many patients have gone from my clinic at the Massachusetts General Hospital to the clinic at the Boston Consumptives' Hospital and to other clinics and have obtained opinions diametrically opposite from mine. And yet we are all working and striving for the same thing —to diagnose our patients in the early stages, to give them adequate treatment and to prevent them from infecting others.

The first definite attempt to solve this problem, as far as I am aware, was made about a year ago in Framingham. There has been going on in this little Massachusetts town for the past three years one of the most interesting experiments that has ever been attempted. An attempt has here been made, under the auspices of the National Tuberculosis Association, and backed up by funds adequate to carry on every method of procedure which could possibly be of assistance, to demonstrate what our modern methods can really accomplish in the way of eradicating tuberculosis and in solving the health problems of this community. The first thing that was done in this experiment was to carry on a survey such as I mentioned above, in order to find out, if possible, exactly how many cases of tuberculosis of any form whatsoever there were at hand. And here, in making a wholesale examination of the inhabitants of this town, we were at once confronted by the difference of standards, opinions, ideas, and methods among the various physicians employed. As a result, a committee was appointed to draw up a set of standards in diagnosis of tuberculosis, which standards, although as yet imperfect and incomplete, are a step in the right direction and a distinct help to us in our work.

The second step, therefore, that I would urge your association to undertake would be in this direction—that you appoint a representative committee to formulate a set of standards in your work. There should be such standards not only for diagnosis but for treatment. The physician, or indeed the nurse or social worker, should have something definite to help in deciding whether to advise sanatorium treatment, hospital treatment, or home treatment. There should be uniformity of records, and of dispensaries, and the time is soon coming, I am convinced, when there will be standardization of hospitals and sanatoria. At first glance this may seem like carrying the military regime altogether too far. I do not believe that this is the case, and were it so I should be the first to rebel against it. These standards, whenever used, must be simply looked upon as hints and helps. Should they be regarded as definite lines of work from which no deviation must be made they will do harm rather than good. Above all they must be used with tact and common sense. Under such conditions I am sure that they will do good.

These two points—tuberculosis or health surveys and some form of standardization of our work I believe to be important in any anti-tuberculosis campaign.

Now let us consider certain other phases of our work and ask ourselves the question first, whether the old methods have outlived their usefulness and should be altered, modified or discontinued altogether; and second, whether new methods recently called to our attention should or should not be adopted. First I should like to consider our

EDUCATIONAL METHODS.

Almost every association, great or small, maintains a lecture service of some kind. Whether or not a lecture is going to do good and really accomplish something, depends not on the information imparted by the lecturer, but on the personality of the lecturer himself and on what he does *before* and *after* his formal talk. Personally, I have lectured to almost every known kind of an organization, and to tell the truth I have reached the conclusion that I have accomplished remarkably little thereby, as far as the lecture and the information I gave out were concerned. The good that has been accomplished by such lectures and gatherings of people has been by individual work with certain interested persons, rather than by anything I said to the gathering, as a whole. Therefore, I rather feel that lecture service as such, except in special individual instances where you have the right man to give the lecture, is not a very important part of our work.

TUBERCULOSIS EXHIBITS.

We have all been to tuberculosis exhibits and have seen charts and statistics, good rooms and bad rooms, and photographs of all kinds, and most of us have left with our minds in a whirl and with very little definite or concrete information to help us, except that we wondered why we were not all dead. Personally, I do not think tuberculosis exhibits are of very great importance except in those communities where education as far as health is concerned is still in the primary stages; and here, as in a lecture service, more depends on the person who demonstrates the exhibit than on the exhibit itself. The exception I would make to this is that concerning children. I remember only too vividly, when a boy, of seeing a chart of an alcoholic's stomach that made a deep impression on me; if you can make an impression with tommy-rot such as this, you can certainly make an impression with things that are really good, such as the need of fresh air and cleanliness, etc.

THE PUBLIC PRESS.

One of the most neglected fields of educational work is the public press. Here is a means which we have not used enough to reach all classes of people, and especially the medical profession and that group of men whose duty it is to frame and carry out our laws. I would suggest, therefore, that it become an important function of every tuberculosis society to maintain a press service and to see that this work is done by someone who knows how to write newspaper English and who appreciates the importance of making such items of some news value as well as of educational value.

MOVING PICTURES.

The moving picture theatres are now used to a certain extent in the States for educational purposes, but might be used must more. There is still an amazing lack of information in the minds of the people as well as in the minds of the medical profession in regard to our public institutions such as state, county and local sanatoria and hospitals for consumptives. In countless instances friends and relatives of patients and even their physicians have come to me finding fault with this or that institution which they have never visited or seen. Here, then, by means of moving pictures, is a field for very definite, practical, and valuable work.

EDUCATION OF CHILDREN.

Some years ago I assisted in the passage of a bill in Massachusetts which required that tuberculosis and its prevention should be taught in those grades of our public schools in which the subject of hygiene and physiology were taught. For this I was severely criticized by an older physician who could see no possible reason why children should be taught anything about such a horrid and unpleasant subject as tuberculosis. I could not agree with him then and I cannot agree with him now. I believe that this whole matter can be taught in a way which will teach valuable lessons and yet which will do no harm whatsoever. We must teach the children just as we must teach the entire public that the rules which govern tuberculosis are simply the rules of decent and right living. The whole boy scout and the modern health crusade movements are efforts in this direction. More depends upon the tact, perseverance, and skill of the individual teacher, be she one of the teaching staff or a nurse, than upon anything else. It is certainly one of the important duties of any tuberculosis association to see to it that school children are given practical instruction in the rules of hygiene and right living.

EDUCATION OF LEGISLATORS.

Finally, and I touch here upon a point upon which I have considerable intimate knowledge, I would urge that you educate your legislators. In the United States, comparatively slight efforts are made to control or influence for good medical legislation in the state legislatures, and even the little that is done is too often delayed until this or that bill has reached a stage when it is given a hearing; at such a time as this, unfortunately, there is very little chance of accomplishing much. From ten years' fairly close observation of this subject I believe that it is ignorance, not wilful or vicious, but simply plain ignorance on the part of our legislators which leads to so many errors of omission and commission on health matters. They do not know why this or that appropriation should be made. They cannot see the harm that this or that bill is going to do, perhaps not in the present, but in the future, and therefore they do not favor the one or oppose the other. The best time to reach the legislator is before his election, but in order to influence him there must be some method whereby he can be approached, not by one or two interested individuals, but by many such. Your association, if it has not done so already, should develop the machinery whereby your legislators can be approached either by letter or, better, in person, by hundreds of physicians and by prominent men and women, so that they will see that what is asked is not merely the individual whim or fancy of one or two but the firm and decided opinion of many from all races and walks of life.

THE SANATORIUM.

During recent years, various articles have appeared, asking the question as to whether or not the sanatorium is worth while or has outlived its usefulness. How often have you and I, when we have seen this or that patient discharged from a sanatorium apparently well and strong, and in six months' time relapse into a condition worse than he was in before, asked ourselves the question—what is wrong with the sanatorium and its treatment and why are not its results more permanent? The sanatorium is worth while. This can be maintained beyond the shadow of a doubt, but the sanatorium must do more than it does now. The real sanatorium must be made to symbolize something more than a splendid group of buildings beautifully located and surrounded by the best that nature can give, where there is good food and careful medical supervision. It must mean more than this. The word "sanatorium," coming from the active verb, "sanare,"—to heal—must mean that the patient is kept under supervision not merely while he is within its walls but for months after his discharge. This is what modern sanatorium treatment must mean, and until it does mean this our results will not be what they should. A proper system of after-care work, following up the patient after his discharge, must be looked upon as a necessary and integral part of every sanatorium. It should begin in the sanatorium itself and should be carried on after the patient has left. The patient who is about to leave or who shows signs of becoming restive should be approached by some nurse or social worker, who, kindly, tactfully, yet firmly, will either try to persuade him to remain as long as he should, or else pave the way for his future career, and who, after the patient has left the institution, will visit his family, inspect his home. get in touch with his physician and his employer, and see that he continues the methods of treatment which have helped to bring back his health. This is real sanatorium treatment.

CONSULTATION SERVICE.

One of the new, and what promises to be one of the most valuable experiments in our tuberculosis campaign, is now being carried on in Massachusetts. I refer to our consultation service. With the help of the Massachusetts Tuberculosis League, Dr. H. S. Wagner, superintendent of the recently opened Barnstable County Tuberculosis Sanatorium, devotes part of his time to seeing, with physicians of this county, various patients at the request of such physicians, concerning whose diagnosis and treatment there is doubt. So far, this method has proved eminently successful. The physicians feel that they have here a man who is in no way in competition with them, but who can help them out in difficult cases among the poorer class of patients who cannot afford to pay a large consultant fee, while for the sanatorium superintendent himself, it offers a chance to see other conditions besides tuberculosis, and to broaden the sphere of his usefulness. I believe that in the future. it will be one of the duties of every well equipped sanatorium to maintain not only an out-patient department, but a consultation service along the lines here described.

TUBERCULOSIS DISPENSARIES

Look up, in the Century Dictionary or in any other encyclopedia, and you will find that the word "dispensary" is briefly defined as a place to which sick people may go and receive treatment. This must not be our definition. Just as a sanatorium without a nurse or a social worker to carry on after-care work is not a sanatorium in the proper sense of the word, so a dispensary cannot be called a real dispensary as far as tuberculosis is concerned unless it is equipped with a nurse or corps of nurses, depending upon its size, who will visit the home of the individual patient, advise and counsel the family as well as the patient, and who will instruct the patient in the details of what he must do. There are other essentials in addition to this that go to make up a proper dispensary. Its location must be accessible to those whom it is expected it will serve. It should not be in an isolated district where either a long walk or trolley ride are necessary to reach it. Its rooms should be cheerful, sunny, and bright. There should be a special day for children, and of particular importance, except in small communities, it should be open one or two evenings a week, so that men or women need not give up an entire day or even half a day in order to get medical advice. If possible, the physicians conducting the examinations should be men specially trained in their work, but above all, these physicians must have tact and common sense. I would rather have a level-headed general practitioner who is endowed with common sense in charge of my dispensary than the most skilful and scientifically trained sanatorium physician in the world if he did not have this valuable quality.

NON-PULMONARY TUBERCULOSIS.

Hitherto our efforts have been devoted almost entirely to tuberculosis of the lungs. We have had to do this because this is the form of the disease which is so dangerous to others. In the vast majority of cases, tuberculosis of glands, bones or joints, while dangerous and distressing to the individual patient does no harm to those about him. The time is coming, in my own state at least, and I believe in many other places, when we can afford to take the next step in advance and to give those patients who are so fortunate, or I should rather call it unfortunate, as to have the disease outside of their lungs, the same chance of getting well as those who have the pulmonary tuberculosis. It is a curious and unfortunate state of affairs that the patient who comes into a dispensary, and especially if he is lucky enough to have a hemorrhage in the presence of the doctor, is immediately diagnosed as a consumptive, and, if possible, sent to a sanatorium or given the fresh air and proper hygiene of which he is in need; while the man, woman, or child who has glands in the neck or tuberculous disease in the kidney or elsewhere is looked upon as a proper subject for surgical skill, or too often, the lack of it. Treatment in this case is usually devoted to that small part of his body which is diseased, while the man himself who owns the disease is neglected. We have reached a stage when this should be changed. We must spread the news that tuberculosis is the same no matter in what part of the body it is located, and that the same sunshine, fresh air, and proper food that cures the consumptive will likewise cure the child with Pott's disease, or the man or woman with enlarged glands in the neck.

TUBERCULOSIS LEGISLATION.

Do we need more laws in regard to tuberculosis? I believe not. Tuberculosis in Canada, as well as in the United States, is a reportable disease, and I fear that as large a proportion of cases in your country go unreported as in my own. More laws will not help this, nor is this state of affairs entirely the fault of the medical profession. Over-zealousness on the part of local health boards has done harm to many patients and prejudiced their physicians strongly against reporting future cases. Education as to the need of reporting tuberculosis on the one hand, and tact on the part of local authorities on the other, are what will solve this problem.

How much do anti-spitting laws accomplish? Very little, I fear. Here again, education as to habits of cleanliness and decent living, and not more legislation is what is needed.

What can we do about the incorrigible consumptive? Will the time ever come when he can be forcibly restrained? I thought so once, but do so no longer. Neither in Canada nor in the States, in my opinion, will we ever be able forcibly to remove or control the wilfully careless and incorrigible consumptive. Education again and not legislation is the secret of success.

I am rash enough to believe that the harm done by the careless spitter and the incorrigible consumptive is, after all, very slight. What we have accomplished in reducing the mortality from consumption during the past twenty-five years, and what we shall accomplish in the future is *not* because by means of sanatoria we have cured a number of patients, nor because we have prevented the spread of infection by providing beds for advanced consumptives, but because we have spread the gospel of right living. It is what we are doing to solve the tenement and housing problem; it is school and factory inspection and hygiene; the prevention of industrial diseases; it is a pure milk and water supply, thereby eliminating typhoid and other acute infectious diseases; open air schools, boy scouts, health crusaders,—it is all this, and not our efforts directed solely to the tubercle bacillus or the tuberculous individual that is ridding the world of tuberculosis.

Therefore, friends, let us broaden our vision; let us assume an aggressive attitude toward our problem; let us know what our problem is as to every minutest detail, but let us attack it from the broadest and widest angle. Above all, let us "Welcome each rebuff that turns earth's smoothness rough" lest we stagnate and rest idle in "the harbor of indifference."

Original Articles.

DIET REDUCTION WITH RETENTION OF PROTEIN TO RELIEVE GLYCOSURIA IN DIABETES MELLITUS.

BY R. L. FENLON, PH.G., M.D., IOWA CITY, IOWA.

[From the Laboratory of Chemical Research of the Department of Internal Medicine, State University of Iowa.]

BECAUSE of the theories outlined below, this method of diet reduction during the beginning of hospital treatment is being used at the University Hospital for relief of glycosuria, and was used in the series of cases described in this paper.

The theories underlying the diet reduction method are as follows:

1. By keeping the protein intake of the diet at a necessary level, the tendency to a development of acidosis is decreased as the patient does not have to burn his own body fats.

2. Protein is needed to replace that lost by the wear and tear on the tissues during the metabolic changes of the body. Chittenden's standard is 0.12 grams of nitrogen per kilogram of body weight. We conclude that this amount of protein is necessary to the body during a diet reduction. This would average 40 to 50 grams daily. This amount of protein is increased in this method because of the altered metabolic changes in diabetes.

3. With the protein intake maintained at a definite level the percentage of carbohydrate in the diet would be relatively decreased. Under preparatory treatment to fasting[1] the protein and fat are both reduced, leaving the carbohydrates relatively high. This is a modified sugar tolerance test on a patient who cannot metabolize sugar properly.

By keeping the percentage of sugar low in the food intake the system might be more quickly drained of the excess sugar present in the blood stream.

4. The tolerance of the patient is more easily and quickly determined.

5. There is less complaint of hunger on the part of the patient by this method of reducing diet.

6. The protein in the diet by maintaining the serum protein in the blood, possibly aids in the nutrition and functioning of the kidney during the diet reduction[2].

The Method of Diet Reduction.

First step. Eliminate the fats from the diet for one or two days, at the same time maintain the proteins and carbohydrates each at 60 to 100 grams (60 grams protein in the severe cases up to 100 grams in the mild cases).

Second step. Leaving the proteins as before, halve the carbohydrates each day until the glycosuria is relieved. [Note: The carbohydrates may be reduced more gradually as indicated by the case.] If the glycosuria still persists when 10 grams of carbohydrate are reached continue at 10 grams for three days unless sugar free before. If glycosuria is still present at end of three days on 10 grams use step three.

Third step. If glycosuria is still present add 50 to 100 grams of oatmeal to the diet for two days.

Fourth step. If glycosuria persists, repeat the diet used just preceding the oatmeal days, lowering the proteins one-third. Keep the patient two days on this diet if necessary.

Fifth step. If not aglycosuric starve, giving only fat-free broths and water for a two-day period.

Sixth step. If necessary, revert to the oatmeal diet for two days and again starve.

When building up the diet, if starvation has been used, build up the protein first to 50 or 60 grams. Then gradually increase the carbohydrates to the danger point. Lastly add fats, 5 to 10 grams a day in severe cases and 25 grams per day in mild cases. If starvation was not used, the protein is already in the diet. In this case increase the carbohydrates 5-10 grams daily to danger point. Then add in the severe cases five grams every second or third day. In mild cases increase 10 to 15 or more grams daily. When the carbohydrates reach 50 grams, if a break has not occurred before, increase fats as stated above.

CHART.

Summary of series. 15 cases. No deaths to date. 100% discharged sugar and ketone free.

Incidence according to age:

Up to 10 years	1 case
10 to 20 years	1 case
20 to 35 years	6 cases
35 to 60 years	1 case
60 and over	6 cases

Incidence according to sex:

8 females	7 males

Case No.	Sex	Age	On Admission				On Discharge		Return Cases. Diet on Admission			
			% Sug.	Gm. Sug.	Di.	Acetone	Sug. Free	Ketone Free	Pro.	Fat.	Carbo.	Cal.
1.	F.	65	0.73	5.58	0	0	yes	yes				
2.	F.	64	7.7	154.	0	0	yes	yes				
3.	F.	60	0	0	0	Trace	yes	yes				
4.	M.	61	0.312	5.1	0	slight Trace	yes	yes				
5.	M.	27	8.69	361.05	+	+++	Left	House				
6.	F.	66	1.74	15.66	0	0	yes	yes				
7.	M.	19	3.44	36.12	0	+	yes	yes				
8.	F.	46	5.72	65.18	+	++	yes	yes				
9.	M.	21	6.66	118.6	0	0	yes	yes				
10.	M.	23	4.76	135.6	Very Sl. Trace	+	Left	House				
11.	F.	34	5.4	178.2	+	+	yes	yes				
12.	F.	61	6.24	24.9	0	0	yes	yes				
13.	M.	6	0	0	0	0	yes	yes	40	35	31	600
14.	M.	33	0	0	0	0	yes	yes	70	90	60	1330
15.	F.	20	0	0	0	Very slight Trace.	yes	yes	60	90	50	1250

Results obtained by the use of this method of diet reduction.

All cases showing diacetic acid in the urine when admitted to the hospital gradually become diacetic free from the first day of admission. Diacetic acid had disappeared from the urine in each case before the urine was sugar free, with the exception of Case 5, who had a very slight trace (See cases 5, 8, 10, 11). Two cases of another series under starvation treatment upon admission did not have diacetic acid in the urine. However, when fasted, diacetic appeared in both cases and did not disappear until the protein in the diet reached 55 to 70 grams. All cases showing acetone in the urine when admitted to the hospital gradually become acetone free from the beginning of the treatment with this method of diet reduction. In other words, the cases showing a tendency toward acidosis improved from the onset of the treatment. Rendering the patient sugar free is usually one of the critical periods of the disease.

Cases coming to the hospital without ketonuria did not show ketone bodies in the urine at any time during diet reduction.

The average number of diet days required to relieve glycosuria was four days.

Two cases of this series required use of oatmeal diet days[3] or step 3. One of these became aglycosuric on step 4, the other by the fifth step.

The results according to the time required to establish the tolerance:

Case 6 discharged the 12th day with a diet of 100 grams protein, 90 grams fat and 90 grams of carbohydrates, a total of 1575 calories.

Case 4 discharged the 14th day with a diet of 110, 115, and 100 grams, respectively, a total of 1875 calories.

Case 2 discharged the 13th day with a diet

Case No.	Diet on Discharge				Blood adm		Blood on Discharge		Diet Days for urine to Become Sug. free	Notes
	Pro.	Fat	Carbo.	Cal.	Sug.	Fat	Sug.	Fat		
1.	60	90	90	1410	.374	.666			2.	combined with nephritis.
2.	100	110	100	1790	.333	.613			2.	Discharged 13th day of treatment.
3.	70	70	90	1270	.325	.671	.181	.638	Blood Sugar normal at 8th day	
4.	110	115	100	1875	.238	.605	.166	.614	1.	Discharged 14th day.
5.					.422	.782			10.	Refractory Patient.
6.	100	90	90	1570	.357	.708	.183	.656	1.	Discharged on 12th day of treat.
7.	90	100	85	1600	.214	.606	.080	.547	2.	
8.	65	75	45	1115	.250	.708	.122	.676	4.	
9.	100	100	90	1660	.285	.536	.140	.574	3	
10.					4th day .134				5	Refractory Patient.
11.	100	90	45	1390	.300	.908			8.	
12.	100	100	70	1580	.286	.566			2.	
13.	70	70	50	1110	.085	.647				"gained weight Looks better" (Mother's report)
14.	100	115	85	1780	.153	.65	.095	.632		Gained 5 pounds 1st 2 months out of Hospital
15.	85	85	75	1405	.08	.815	.08	.790		Once broke on 40 gm. Carbo.

of 100, 110 and 100 grams respectively, a total of 1790 calories.

Case 15. During the first hospital treatment glycosuria appeared when the carbohydrate of the diet reached 40 grams. During the last admission she was sugar free during the entire course. Carbohydrate tolerance was 75 grams at the end of the last admission. Glycosuria did not appear during this admission as the patient did not wish to have the tolerance increased above 75 grams at this time.

The phlegmon on the scalp in Case 5, after persisting for two months, healed during treatment.

In Case 1 combined with nephritis there was gangrene affecting both feet. The process was arrested during treatment.

In Case 2 during the first part of the treatment the patient could not read postal cards; four weeks later she could read without difficulty and do embroidering.

Case 6 had cystitis; this was the chief complaint on entering the hospital. This was gradually relieved during the treatment of diabetes.

Case 13 has gained in weight and looks much better, according to the reports sent back to hospital by the mother.

Case 14 gained five pounds in weight the first two months on the final tolerance.

Case 2, upon admission, showed 7.7% sugar; discharged on the 13th day with a diet of 1790 calories.

The points of interest observed during this series and to be confirmed in future cases are as follows:

1. Avoid discharging a patient with a fat content in the diet over 15 grams higher than the next highest constituent of the diet.

Case 15 was discharged (from a former admission) with a diet as follows: protein, 60 grams; fat, 90 grams; and carbohydrate, 50 grams. On discharge the acetone in the urine was a single plus. The patient, on return to the hospital, stated that at no time did she take the full amount of fat in the diet. On the present admission acetone was present in the urine as a very slight trace only. On rebuilding the diet with the fat and protein corresponding the patient left the house ketone-free.

2. Try to avoid the appearance of sugar in the urine after the patient becomes sugar free. Breaks of this kind seem to sensitize the system to sugar and to decrease the final carbohydrate tolerance.

3. Discharge the patient following the first course of hospital treatment with a diet just sufficient to meet the caloric requirements. Do not attempt at this time to push the diet to the limit: rather give the body a rest for a time and build up the diet on a future occasion.

In building up the tolerance of such a return case, endeavor to keep the carbohydrate (in each daily increase of the diet) at the same percentage that it was in the diet on the previous discharge. By taking into consideration the specific gravity of the urine and the concentration of the 24-hour specimen, an approaching glycosuria may be indicated. A gradual increase in the specific gravity during the last few days of hospital treatment is a warning that the carbohydrate content of the diet is set too high for a final tolerance.

4. Blood sugar readings are relatively higher with advancing years.

REFERENCES.

[1] Joslin's Treatment of Diabetes Mellitus, 1917, pp. 303, 305.
[2] New Series No. 34 Scientific Memoirs by Officers of Medical and Sanitary Department of the Government of India, p. 64.
[3] Hamburger: British Medical Journal, March 8, 1919.

THE PATHOLOGY OF "INFLUENZAL PNEUMONIA."*

BY FRANK P. MCNAMARA, M.D., NEW HAVEN, CONN.

[From Brady Laboratory of Pathology, Yale Medical School, New Haven, Conn.]

THIS paper is based on ninety-five postmortem examinations, eighty-two of which were performed at the Brady Laboratory of Pathology at the New Haven Hospital, which is the teaching hospital of the Yale Medical School. The other thirteen were performed at the United States General Hospital No. 16 in West Haven. All were done under the direct supervision of Dr. M. C. Winternitz, Professor of Pathology and Bacteriology at the Yale Medical School, and it is through his kindness that I am permitted to give you this report. More complete studies, in which all the phases of the disease are taken up in detail, are now in press. As the anatomical changes in the respiratory tract are the most constant and by far the most important, they will be considered in some detail, while the more striking extra-pulmonary lesions will be touched upon briefly.

It must be stated at the start that we do not know the etiology of influenza. At present it is the general consensus of opinion that the influenza bacillus is not the primary etiological agent. Perhaps the most promising work toward solving the problem is that of various groups of French and English workers who have found a filterable virus in the blood of influenza patients. When injected into the blood stream of monkeys, the virus causes a hemorrhagic condition of the lungs. Of course, this work is yet to be verified. We are also unable to state where the initial lesion occurs, or how it manifests itself. While, undoubtedly, the first recognizable symptoms occur in the upper respiratory tract, the possibility that the disease is primarily a blood infection or that it may first attack the lung, must be kept in mind.

You are only too familiar with the intense cyanosis which was observed in the influenza patients who developed pneumonia. I believe that it was considered a very bad prognostic sign. At the post-mortem table, the face, neck, and upper chest were often literally plum color, especially in the young, robust adults who were seen so frequently in the first weeks of the epidemic. Frothy, blood-tinged fluid bubbled from the nose and mouth in nearly all the patients. Jaundice was quite frequently seen, and was probably due to an increased destruction of red blood cells and to cloudy swelling of the liver, causing obstruction of the bile capillaries. The above and an intense rigor were the most striking features on external examination of the body.

On opening the thoracic cavity, the pleural surfaces were distinctly more wet than usual, and an effusion of two or three hundred cubic centimeters of faintly blood-tinged serous fluid were found in a good percentage of the cases. Later, fibrin, in small or large amounts, was more frequently seen. Comparatively rarely was there a frankly purulent fluid found, and then only in late cases.

---

* Read before the Worcester North Branch of the Massachusetts Medical Society, Oct. 28, 1919.

The trachea and the larynx are deep red in color, due to congestion, and often small punctate hemorrhages can be made out in the mucosa. The congestion increases progressively as the bifurcation is approached. Superficial ulcerations are also common. Over the surface there is an exudate composed of clear or faintly blood-tinged mucus with some fibrin. Membranes similar to those seen in diphtheria are not found. Microscopically, the mucosa is exfoliated in part and covered by mucus, fibrin, some red blood cells, and cellular debris. The submucosa is intensely injected and very edematous. Often there are extravasations of red blood cells into this layer. The process is superficial and only rarely extends to the glands of the submucosa, but it is very evident that the protection against bacterial invasion, given by a normal mucosa, is destroyed. Thus the bacterial flora of the mouth have ready access to the lower respiratory tract.

The lesions in the bronchi and bronchioles are more intense than those in the trachea. They vary somewhat, depending upon the duration of the disease, but often in the same lung, early and late lesions are encountered. Study of the earliest lesions show the epithelial cells to be more granular than usual, and their nuclei are pyknotic. The submucosa is congested and edematous, while the lumen of the tube contains serum and mucus. A more advanced stage shows hyaline necrosis of the epithelium which may be lacking over large areas, and engorged blood vessels may jut out into the lumen of the tube. Sometimes a ruptured vessel fills the tube with red cells. Bacteria, scattered diffusely or in rounded masses, are seen in the lumen, which also contains serum, red blood cells, and cellular debris. The necrotizing process may involve only the mucosa or may extend through the wall of the tube. In the early stages the lack of polymorphonuclear leucocytes in the exudate is very noticeable. Later they invade the lumen or the wall of the tube, and may even form a wide zone about it. This is all the more striking where such a bronchiole is found with normal lung surrounding it. However, it is evident that with complete destruction of the wall, the process may extend to the surrounding lung, giving rise to peribronchial pneumonia or going on to actual abscess formation.

Sooner or later, if the patient survives, repair begins in the trachea and bronchi. In the trachea where the damage is superficial, the epithelium regenerates very rapidly, and resembles squamous epithelium. Probably in time it becomes normal ciliated epithelium. In the bronchi and bronchioles the changes resulting from the reparative process depends, of course, upon the extent of the initial damage. Probably most of them are only superficially injured, and, therefore, will be restored to normal. In those cases where the necrotizing process has extended into or through the wall, new capillaries and fibroblasts organize the exudate both around the tube and within it. Thus, upon contraction of the fibrous tissue, obliterating bronchiolitis and bronchiectatic cavities result. The regeneration of the bronchiolar epithelium is more striking in this disease than in any other. The actively dividing young epithelial cells, in which mitotic figures abound, can be seen in strands and solid nests, not only about the lumen of the tube, but often extending for a considerable distance out into the surrounding lung. The histological picture is exactly like that of a carcinoma.

We have divided the lungs into three groups: the first, an acute fulminating type where the entire lung is evolved, a second type where the process tends to become localized and where necrosis is marked, and a third type, in those patients surviving a considerably longer time, where organization of the bronchiolar and alveolar exudates is the prominent feature. It must be understood that this division is purely arbitrary and that the groups overlap somewhat, for a lung that shows extensive organization may also show evidences of acute inflammation.

Nearly one-half of the cases studied are of the acute fulminating type, and in this type the patients survived only a relatively very short time. In these cases the lungs are very voluminous and heavy, due to contained fluid. Externally the pleural surfaces may be slightly dulled, or there may be a trace of fibrin. Rarely there is a thick fibrinopurulent exudate over the pleura. Beneath the pleura, small punctate hemorrhage may be seen in all parts of the lung. Toward the apex the lung is pink and distended. Lower down and posteriorly, it is dark red, purple, or reddish brown. Numerous elevated, rounded areas, several centimeters in diameter resembling hemorrhagic infarcts, are found scattered over the surface of the lung. On section, blood red, syrupy fluid literally pours forth from the cut surface. Frothy serous fluid bubbles out of the bronchi, which appear dilated. The cut surface is dark red and meaty, and only rarely has the granular appearance seen in ordinary pneumonia. Sometimes areas involving several lobules may be dark reddish-brown or may even have a greyish appearance, and such areas are firmer than the red ones. Toward the apex the lung is generally congested and emphysematous. The lung is not consolidated, but has somewhat the consistency of a sponge wet with syrupy fluid.

Histologically, intense congestion and subpleural, interlobular, perivascular, and alveolar edema are the most constant findings. Sometimes the alveolar exudate is almost pure fibrin or it may be fibrinoserous. The alveolar capillaries are engorged, and sometimes, due to rupture, the alveoli are filled with red blood cells. Such hemorrhages may involve large portions of the lung. At this stage, polymorphonuclear leucocytes are entirely lacking or are only few in number. Another feature is the bacteria that are seen in the exudate, as cocci, diplococci, or in chains. The most striking picture and one that is peculiar to this disease, is the hyaline necrosis of the terminal bronchioles and alveolar walls, sometimes involving only the epithelium, but often involving all of the structures of the wall. With the death of the tissues of the alveolar wall, rupture is to be expected, and thus the air escapes into the interstitial tissue, and this form of emphysema is met with in a fair percentage of cases. From the surface of the lung the air may escape into the mediastinum, up into the neck, and even up into the face, causing the subcutaneous emphysema with which you are familiar clinically.

The fulminating type of pneumonic process is, therefore, characterized by intense congestion, a tendency to hemorrhage into the lung, an aplastic serous or serofibrinous exudate in which bacteria abound, and hyaline necrosis, slight or great in extent, of the terminal bronchioles and of the alveolar walls. Interstitial emphysema results from rupture of the latter structures.

In the stage of the disease characterized by necrotization and localization of the pneumonic process, the lung retains its increased volume, but the consolidation which is more definite than in the previous stage, is more liable to involve the lower portions of the lungs. At times the process may be lobar in distribution. In general the distribution is lobular and involves all lobes somewhat. The pleural exudate shows more fibrin and may be large, but is more often small in amount. The infarct-like areas are still prominent externally, but now may show evidences of pus, as well as hemorrhages, in their substance. On section, perhaps the most outstanding feature is the thick pus that wells forth from all the bronchial tubes. The latter are distinctly dilated. The cut surface is granular and thick, and hemorrhagico-purulent fluid can be scraped from it with the knife. The consolidation is patchy, some areas being red, others reddish-gray or reddish-brown, and comparatively normal lung may appear between such areas. Small and large abscesses are seen at times, and actual gangrene of the lung is also encountered. Of course, between such extremes there are varying degrees in the involvement of the lung. The histological examination also shows considerable variation in the different parts of the lung. In the upper portions the alveolar exudate may be subsiding, and regeneration of the alveolar epithelium is seen. But even in such areas, the bronchi are filled with pus cells, bacteria, and cellular debris, and often there is a peribronchial pneumonia. Miliary abscesses are formed in the interstitial tissues which are still spread wide apart by the edema. In the more consolidated areas the alveolar exudate is purulent. Through it bacteria, singly or in large colony-like masses, are seen, and about such an area the lung tissue is dead. From this stage the process goes on to actual abscess formation or to the more extensive death *en masse*, typical of gangrene. However, it must be emphasized that in the same section we may have an area with extensive necrosis, while adjacent to it the alveolar exudate may be composed only of serum, the two areas being separated by a band of interstitial tissue. The latter is most certainly a defence against the spread of infection from one area to another.

In those cases in which the patient is able to withstand the disease for a long period, it is only to be expected, with so much destruction of the tissue, that there will be some attempt to repair the damage. You know that in lobar pneumonia resolution nearly always takes place and a normal lung results. In influenzal pneumonia, however, this is not true in all cases. In one-eighth of this series, extensive organization of the bronchiolar, alveolar, and interstitial exudates was found. This percentage is even more striking than it appears at first glance, for it should be remembered that death occurred in such a relatively short time in nearly one-half the cases, that there was no opportunity for the reparative process to become apparent. As a result of this organization, in some of the later cases we found obliterating bronchiolitis and the formation of bronchiectatic cavities, as well as large areas where the alveoli were filled by granulation tissue. Undoubtedly, this will explain many of the chronic pulmonary conditions that may be found in patients who survived the epidemic last year.

A great many of the lungs showed apical tuberculous scars, but apparently the pneumonic process had no effect upon them in the vast majority of cases. This may have been because there was no time for the spread of the tuberculous process. In one case, however, the patient survived for thirteen weeks, an old tuberculous focus had been lighted up, and there was an intermingling of the necrotizing and organizing pneumonic process with an early tuberculosis in all parts of the lungs.

Dilatation of the right heart, acute splenic tumor, and cloudy swelling of the viscera were found in all cases. We did not find acute nephritis. The other extra-pulmonary lesions that were more or less constantly found, were hemorrhages in the adrenal bodies, in the rectus muscles, and, at times, in the testes. Zenker's degeneration was also found in the rectus muscles. We had one case of ruptured bladder, and in another case multiple bacterial emboli, with hemorrhagic necrosis of the wall of the intestine, were found. There evidently was some tendency for thrombi to form in the peripheral veins. In two cases that were on the road to recovery, death was due to pulmonary emboli. In both instances the clot was set free from the iliac veins.

The bacteriology of the lungs at post mortem showed the pneumococci, the streptococci, and the "influenza" bacillus most frequently. However, we found the staphylococcus aureus, the bacillus pneumoniae, the micrococcus catarrhalis, and a few unidentified organisms. At times one or the other was found in pure culture, but most often two or more forms were found in the same lung. These are all organisms that may be said to be normal inhabitants of the mouth. We believe they are all secondary invaders, gaining access to the lung because of the damaged trachea.

To sum up briefly, we have a disease of unknown origin but one which, undoubtedly, affects the upper respiratory tract and which may be primary in the lung itself. Acute laryngitis and tracheobronchitis result. Because of the injured trachea, the mouth organisms gain access to the lung, perhaps already injured, and there set up a diffuse pneumonia. The latter is characterized at first by edema, congestion, hemorrhage, and hyaline necrosis of the bronchiolar and alveolar walls. Later the process tends to localize, and necrosis of the lung, varying in degree from miliary abscesses to actual gangrene, results. If the patient survives, organization of the interstitial, bronchiolar and alveolar exudates results in fibrosis of the lung, obliterating bronchiolitis and in the formation of bronchiectatic cavities. The bronchiolar epithelium proliferates in this disease as in no other and has the histological characteristics of an epithelial neoplasm.

Note.—The paper was illustrated with 57 lantern slides of the various gross and histological lesions.

◆

THE POSSIBILITIES OF CARREL-DAKIN TECHNIQUE IN CIVIL LIFE.

By Allen G. Rice, M.D., Springfield, Mass.,
Assistant Surgeon, Springfield Hospital.

It was my good fortune while in the Army to receive the benefit of two weeks' instruction at the Rockefeller Institute in the Carrel-Dakin technique. Later, at United States General Hospital No. 10, I was given unhampered opportunity, thanks to the Chief of the Surgical Service, to apply the method in some three hundred cases of chronic osteomyelitis. Firmly convinced through this experience of the efficacy of the Carrel-Dakin treatment and heartily enthusiastic over its results, I determined to continue it in civil practice at the earliest opportunity.

Its introduction into a civil hospital, however, presented from the start some formidable obstacles. Members of the staff had experimented with a spurious "Dakin's solution" compounded by dissolving in water commercial tablets with various euphonious names. Unfamiliar with the Carrel technique each surgeon had individually devolved his own from a perusal of the literature and from his past general surgical experience. The results naturally did not even approach the glowing accounts of successes that flooded war literature. It was inevitable, therefore, that the whole method was generously and for the most part generally scrapped as a fad. Not a few men openly voiced their disgust with it and frankly condemned it at every opportunity. In the next place there was none of the ingredients nor essentials for making Dakin's solution and only a heterogeneous collection of glassware, rubber tubing, etc., that passed by courtesy only as Carrel apparatus. And, finally, there was no technician either in the pharmacy or the laboratory who knew how to make Dakin's solution.

Thanks, however, to an open-minded hospital superintendent and my own immediate progressive chief on the staff, all difficulties were swept away and the opportunity to institute the technique was granted. New apparatus was bought and installed, and the pharmacist was instructed in all the details of the manufacture of Dakin's solution by the liquid chlorine method. Within a week the pharmacist was able to produce a perfect solution that could always be trusted, which in itself was half the battle. Unless the real Dakin's solution can be obtained from a man who can be trusted absolutely to make it always of the proper strength and alkalinity no attempt should be made to practise the Carrel-Dakin technique. There is no short cut to success.

The following six cases were in no sense of the word selected but were taken as they presented. No attempt will be made to analyze them nor to draw conclusions from so small a number. The sole purpose of this paper is to show that results can be obtained in wounds of civil life comparable to those obtained in war wounds. and thereby to encourage others to master this comparatively simple technique and then to go and do likewise.

1. W. D., in August, 1917, fell from a tree and sustained a very severe compound fracture dislocation of the left elbow. There followed such a virulent infection that the entire elbow joint became disintegrated, firmly ankylosed, and all the flexor muscles of his forearm sloughed. He was left with two discharging sinuses, one over each condyle, that were still discharging when he was admitted to the hospital, August 4, 1919. An x-ray showed no joint surfaces, and both sinuses leading down to deep sequestra and areas of chronic osteomyelitis. On August 11, he was operated through a longitudinal incision that split the triceps muscle and tendon. The soft parts were pushed forward off from both condyles, sequestra and all diseased bone widely cut away until there was left one wide, saucer-shaped wound with its base composed of healthy bone. The old sinuses were excised and then ignored in the after-treatment. Carrel-Dakin method was immediately instituted. On November 3, the extensive wound had granulated in painlessly and cleanly until only a flat, granulating area the size of a penny remained, and he left the hospital. On November 11, the wound was entirely healed and has remained so. The old sinuses that had been discharging continuously for two years healed ten days after operation.

2. E. D., in September, 1917, received a compound comminuted fracture of both bones of the left leg just above th ankle, involving the tibio-tarsal articulation. Infection followed and although the position of the fragments is excellent he was left with discharging sinuses that never healed. Four times in the last two years the bones were curetted and the cavities packed with gauze. He was admitted to the hospital August 20, 1919, with two discharging sinuses just above each malleolus. An x-ray showed osteomyelitis of the lower four inches of the fibula; an osteomyelitic cavity with sequestrum in the lower end of the tibia; and bony ankylosis of the tibio-tarsal joint. The lower ends of tibia and fibula were fused. On August 23, he was operated through an incision extending from below the tip of the external malleolus eight inches up the fibula. The lower four inches of the fibula were excised, as was the bony fusion with the tibia, and as much of the tibia as was necessary to reach the cavity in that bone. The resulting wound was cup shaped, its walls composed of healthy bone. The sinus in the internal malleolus was excised and thereafter ignored. Carrel-Dakin treatment was immediately begun. On November 20, the large cavity had filled in until there was left only an almost flat granulating wound about an inch in diameter, and he left the hospital. On December 5, the wound was entirely healed for the first time in two years.

3. D. O'C., on January 22, 1918, received a compound fracture of both bones of the left leg three inches above the ankle. Infection followed and she was in the hospital until April 2, 1918, when she was discharged with firm union, good position, but with an open sinus. She was again admitted to the hospital, August 13, 1919, with the sinus still discharging. An x-ray showed an osteomyelitic cavity in the tibia with a se-

questrum, to which the sinus led. She was operated, August 16, 1919, through an incision along the anterior surface of the tibia excising the sinus. The cavity in the tibia was entered, and its walls cut away until it became saucer shaped bounded by healthy bone. Carrel-Dakin treatment was started immediately. The cavity filled in rapidly with clean granulations and on October 13 was entirely obliterated. At that time an old sinus on the back of the leg that had been healed several months broke open and discharged. It was thought that a focus of osteomyelitis had been overlooked, but it cleaned up rapidly, grew gradually smaller, and finally healed on November 15, and has remained healed.

4. G. S. Last May he began to complain of pain, tenderness, and swelling in his right leg, the symptoms varying in intensity from day to day. X-rays disclosed uncertain lesions. On August 16, 1919, he was admitted to the hospital. On August 23, he was operated on through an incision along the middle of the anterior surface of the tibia, the cortex of the bone was drilled through and pus found. A small, localized cavity was disclosed containing about two drams of pus. The cavity was converted into a saucer-shaped wound with healthy bone walls, and Carrel-Dakin treatment instituted. The cavity filled in rapidly and on October 27 was entirely healed.

5. M. R. suffered a compound fracture of the right femur in November, 1917. The wound never healed, so that he has been going about with a discharging sinus ever since. He was admitted to the hospital September 15, 1919. An x-ray showed a small sequestrum lying in a small osteomyelitic cavity. He was operated September 18 by excising the sinus and enlarging the wound longitudinally. The bone cavity was broken into, the sequestrum removed, and the top and walls of the cavity cut away until the cavity had the desired cup shape. Carrel-Dakin treatment was begun at once. The cavity filled in so rapidly that on October 17 the tubes had to be omitted for the simple reason that there was no place to insert them. On October 29 the wound was entirely healed and he left the hospital.

6. H. T. Fourteen years ago he had an acute osteomyelitis of the right tibia which was "scraped" out at the time. The resulting wound has never healed except for an occasional short period. He was admitted to the hospital July 29, 1919, with two discharging sinuses on the anterior surface of the tibia about four inches apart. An x-ray showed several small sequestra lying on the cortex of the bone, which was thickened and irregular in shape. There was no apparent involvement of the medullary cavity. On August 13, he was operated by excising the whole of the old indurated scar and the two sinuses in one mass. To the same extent the cortex of the bone was removed down to but not invading the medullary cavity. This left a shallow trough in the tibia limited everywhere by healthy bone. Carrel-Dakin treatment was started immediately. This wound filled in very slowly although it was at all times free from pus and slough, so that it was not until November 5, 1919, that this comparatively small wound was healed. It has, however, remained healed, which is the longest period of its kind in fourteen years.

Clinical Department.

THE TREATMENT OF CHRONIC ULCERS.

By Frank E. Stowell, M.D., Worcester, Mass.,

Physician in Charge of the Electrotherapeutic Department of Worcester City Hospital and Memorial Hospital.

Under the above term are included varicose ulcers, indolent non-healing ulcers of long standing, bed sores, and ulcers of tubercular origin.

These conditions present a sad picture in the wards and clinics of our hospitals because while seldom causing death, they keep the sufferer from the normal enjoyment of life and often from earning a living. The condition is the more pitiable because they are practically all readily curable and yet are allowed to take up time and space in the wards and clinics which should be used for other cases.

They all present a more or less similar picture. In size they vary from half an inch to five or more inches in diameter. The base is covered with exudate. The edges are elevated and covered wth dead epithelium. The surrounding skin is often thickened and always infiltrated with stagnant blood and red cells. In other words, there is venous stasis and pigmentation in the surrounding area. Thus, the living and proliferating skin elements are bound down with dead material and the capillaries which should supply nourishment, are filled with dark, venous blood.

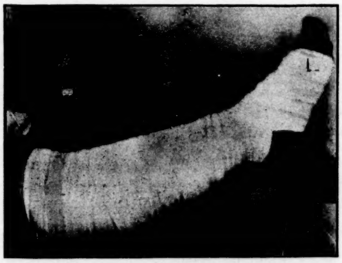
In the face of this, how can we expect to nourish the parts with so-called nutrient dressings or stimulate with ointments when these cannot penetrate, and if they could the proliferating cells would be held back by the dead layers covering them.

Success can be hoped for only by the use of some means by which fresh arterial blood can be made to replace the venous blood in the surrounding capillaries and the base can be kept clean and cell proliferation stimulated.

Such a method is within reach and has been used by the writer in part for fifteen years and in full for seven years, with practically one hundred per cent. success in all cases that stay under treatment at least two weeks or, at the longest, eight weeks. In no case is the patient put to bed, or kept from work as a part of the treatment.

As a large per cent. of these ulcers occur on the leg, we will first describe the treatment of a typical case. Each step and detail of the treatment is important and must be carried out in full.

On the insulated platform of the static machine is placed a Morris or other comfortable chair in which the patient sits. Before him on the platform is a small stool on which he places the foot of the leg to be treated. The leg is thus elevated to body level and must be kept so during treatment. Shoe and stocking and all dressings are removed. If this is the first treatment and it is necessary, the foot and leg are first washed with soap suds and rinsed with clear water or bichloride 1 to 2000, then dried. The ulcer is then cleaned with alcohol. As much dead material as possible is removed with forceps and the base of the ulcer is very gently curetted to remove slough and exudate. The ulcer is then cleaned again with alcohol and painted with a 50% tincture of iodine. For this purpose, small toothpick swabs are the most satisfactory. The patient is then connected with the negative pole of the static machine, the positive pole being grounded and the static breeze and sparks thoroughly applied to ulcer and surrounding areas. This usually relieves all pain at the first treatment and can be so regulated as not to be unpleasant. The relief is so great that those patients who object at the first treatment are usually glad to take the second and subsequent treatments. The object of all this is to remove stasis and stimulate healing and it does so with remarkable rapidity. In a short time those showing the greatest thickening and pigmentation, become normal in appearance and granulations rapidly appear. A dry dressing or, occasionally, in the judgment of the operator, a boric ointment dressing is applied and then the leg is bandaged. The last is a most important part of the treatment and must be done correctly. The most satisfactory bandage is a 2½-inch gauze of good quality. The end is moistened and applied to the sole of the foot. This effectually prevents slipping. Then two or three turns are taken about the foot, then a figure of eight is done about the ankle and foot and the bandage is continued up to the knee, making firm, even pressure and leaving no part exposed or without pressure. The bandage must be drawn as tight as the strength of the operator and the strength of the gauze permit. The writer has never seen any harmful results, although at first the legs were watched carefully. The deep veins take up the circulation that is purposely in part shut off. It may be necessary to use a second bandage over the first to get even pressure, and be sure that all parts of the leg are covered. The ends of the bandage are held with adhesive and a strip is put around the foot and ankle; then and only then is the patient allowed to lower the foot. He is allowed to put on stocking and shoe and go about his business. The treatment is repeated three times a week until the ulcer is healed. There is no scarring. After the ulcer is healed, the

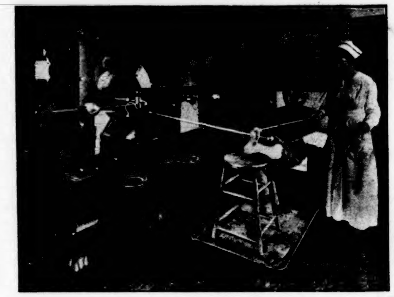


A Correctly Bandaged Leg.—This bandage is used no matter how small the ulcer may be. The patient had two small ulcers above the ankle, of two years' standing. Congested area, eight inches in diameter. Pain which caused loss of sleep and giving up work. Two treatments relieved pain entirely. After three weeks he is returning to work. Ulcers clean and two-thirds healed. Hospital case.

patient must wear a tight-fitting elastic stocking going from the foot to the knee. This stocking must be measured for with the foot in the same position as for treatment.

The ulcers, in my experience, never recur if such a stocking is worn permanently when the patient is out of bed.

In the case of bed sores and tubercular ulcers as they are located on other parts of the body, the technique is slightly different. They are cleaned as are the varicose ulcers, iodine is painted on, and I may say here it may in all cases be used freely without fear of a burn or injury to the tissues when followed by static sparks or breeze. Then the breeze is used instead of the sparks and a dry dressing of boric ointment is held on with adhesive instead of the bandage, as is the case of varicose ulcers.



This Picture Illustrates the Proper Position of the Patient for Treatment.—The nurse was giving static sparks. Man had a small ulcer of over two years' standing, which healed completely in four weeks. He had been in the wards seven weeks with no result. While under my care he continued work as a hostler in a livery stable.

Sinuses following osteomyelitis, as well as tubercular fistulae, do equally well. The sinus is curetted clean at each treatment, then swabbed with iodine and the sparks or breeze applied. The fistulae are swabbed out with iodine, then treated as before.

Very recently the writer has used to some extent and very satisfactorily, di-chloramine T in place of iodine or boric ointment and applied it after the electrical treatment, the previous steps being as before.

Closely allied to the above conditions is herpes zoster. The results of electrical treatment in this condition are so satisfactory that it may well be included in this article. As is well known this is of nerve origin, the rash always following the course of some nerve. Treatment should begin as soon as the condition is recognized. If a diagnosis can be made before the rash, so much the better.

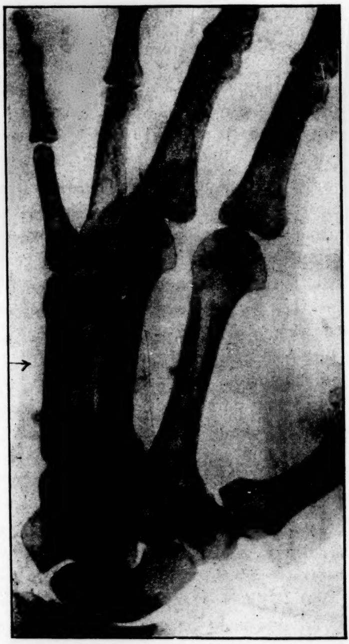
The treatment consists of the application of the static wave current to the spine at the point of origin of the affected nerve and of sparks to the herpes.

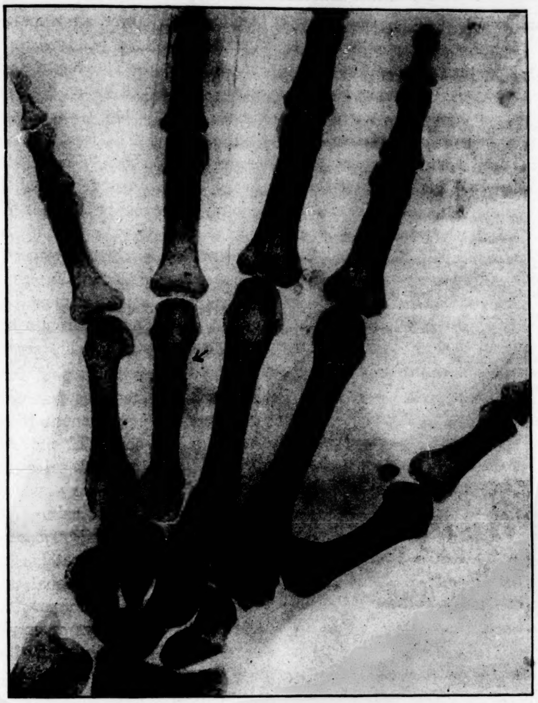
This treatment never fails to relieve the pain completely and to dry the herpes with one or two applications if given at the onset of the disease. In the later stage the result is satisfactory but slower, more treatments being required.

AN UNUSUAL CASE OF METACARPAL FRACTURE.

By S. S. Dearborn, M.D., Nashua, N. H.

My only excuse for presenting this case is the unusual cause, in this instance, of fracture of a metacarpal bone.





C. W., an athletic man of 32, while romping with a nine-year-old child, lifted her by the elbows and on lowering her to the floor felt a sudden, sharp pain in his right hand accompanied by a popping noise which was distinctly heard by others in the room. He presented himself for examination three hours later. The hand was slightly swollen but the characteristic deformity of depressed knuckle was absent. He could close his fist without discomfort. Palpation revealed slight crepitus and this was elicited only by pressure against the distal cord of the third metacarpal. There was only moderate tenderness over the bone. An x-ray showed only a fine crack in the anterior-posterior view, but laterally the fracture is well defined.

◆

Book Review.

Rules for Recovery from Tuberculosis. Third Edition. By LAWRASON BROWN, M.D. Philadelphia and New York: Lea and Febiger. 1919.

The appearance of the third edition of this volume, "Rules for Recovery from Tuberculosis," gives evidence of its helpfulness to tuberculous patients. The author has attempted to explain, primarily for the benefit of his own patients, the nature of the disease and the care which must be taken in order to cure it. The prevalence of the tubercle bacillus, its nature, and the means of transmission are explained in simple, direct terms so that anyone suffering from the disease may understand his problem and meet it intelligently. The importance of constant carefulness and self-control is emphasized repeatedly. Rest, food, and fresh air are named as the three great medicines in the care of tuberculosis. Suggestions are offered for the daily routine of patients, for sleeping out, exercising, and recreation. The danger from coughing and methods whereby a patient may learn to control a cough without drugs are pointed out. Of particular importance are the chapters on the care of children in the homes of the tuberculous and the hygienic care of the patient. The book is so clearly written and its suggestions so practical that its usefulness to tuberculous patients is unquestionable.

THE BOSTON
Medical and Surgical Journal

Established in 1812

An independently owned Journal of Medicine and Surgery published weekly under the direction of the Editors and an Advisory Committee, by the Boston Medical and Sugrical Journal Society, Inc.

THURSDAY, FEBRUARY 12, 1920

Editors
Robert M. Green, M.D., *Editor-in-Chief*
George G. Smith, M.D., *Assistant Editor*
Walter L. Burrage, M.D., *For the Massachusetts Medical Society*

Committee of Consulting Editors
Walter B. Cannon, M.D.
Harvey Cushing, M.D.
David L. Edsall, M.D.
Reid Hunt, M.D.
Roger I. Lee, M.D.
Robert B. Osgood, M.D.
Milton J. Rosenau, M.D.
Edward C. Streeter, M.D.

Advisory Committee
Edward C. Streeter, M.D., Boston, *Chairman*
Walter P. Bowers, M.D., Clinton.
Homer Gage, M.D., Worcester
Joel E. Goldthwait, M.D., Boston
Lyman A. Jones, M.D., Swampscott
Robert B. Osgood, M.D., Boston
Hugh Williams, M.D., Boston
Alfred Worcester, M.D., Waltham

Subscription Terms: *$5.00 per year, in advance, postage paid for the United States, $6.56 per year for all foreign countries belonging to the Postal Union.*

An editor will be in the editorial office daily, except Sunday, from twelve to one p.m.

Papers for publication, and all other communications for the Editorial Department, should be addressed to the Editor, 126 Massachusetts Ave., Boston. Notices and other material for the editorial pages must be received not later than noon on the Saturday preceding the date of publication. Orders for reprints must be returned in writing to the printer with the galley proof of papers. The Journal will furnish free to the author, upon his written request, one hundred eight-page reprints without covers, or the equivalent in pages in the case of articles of greater length.

The Journal does not hold itself responsible for any opinions or sentiments advanced by any contributor in any article published in its columns.

All letters containing business communications, or referring to the publication, subscription, or advertising department of the Journal, should be addressed to

Boston Medical and Surgical Journal
126 Massachusetts Ave., Corner Boylston St., Boston, Massachusetts

INCOME TAX COMPUTATION.

The computation of his income tax should not be difficult for the professional man, since by education and training he is accustomed to drawing up statements, he has records of transactions involving income, and keeps well in touch with his expenditures. The following information will be helpful in enabling the physician to know just what he is allowed to deduct as professional expense in figuring his net income.

The present Income Tax law requires that returns for 1919 be filed on or before March 15th, 1920, at the office of the Collector of Internal Revenue for the district in which the taxpayer lives. At least one-quarter of the tax due must accompany the return. An unmarried person must file a return if his or her net income was $1,000 or over; and a married person living with wife (or husband) must file if their joint net income was $2,000 or over. A widow or widower, or a married person living apart from wife (or husband) is classed as a single person. The requirement to file a Federal Income Tax return is not contingent upon there being a tax due.

Form 1040 A is used for net income of not more than $5,000; Form 1040 for net income over $5,000. Instructions and a working sheet accompany each return form. Every firm of professional men operating as a corporation must make an annual return of net income on Form 1120; if operating as a partnership, a return of Form 1065 must be filed. An individual's gross income from a profession includes all compensation for his services.

Where services are paid for with something other than money, the fair market value of the thing taken in payment is the amount to be included as income. If the services were rendered at a stipulated price, in the absence of evidence to the contrary such price will be presumed to be the fair value of the compensation received. In the case of a salary received, this should be shown separately, in Block B, of the return. Many professional men and women—lawyers, medical examiners, teachers, accountants, etc.,—are officers or employees of a State, or a political sub-division of a State, such as city, town or county. Their salaries or wages as such officers or employees are exempt from the Federal Income Tax. The exemption also applies to fees received by notaries public commissioned by State and also the commissions of receivers appointed by State courts. As to fees for services to clients and patients, these should be included in the gross income for the taxable year in which they are received, unless they are included when they accrue to him in accordance with an approved method of accounting followed by him.

A professional man may make his return on the basis of cash intake and actual expenditures for the year. It should be noticed that a taxpayer is deemed to have received income which has been credited to or set apart for him without restriction. A more exact and equitable method of figuring net income is on the "accrual basis." This means a computation on the basis of income earned and expenses incurred, whether paid or not, that actually pertain to the taxable year, excluding income earned and expenses incurred in previous or succeeding years. A professional man who keeps books of account should make returns by this method, if his accounting method is one generally employed, and shows a correct net income.

A professional man may claim as deductions the cost of supplies used by him in the practice of his profession, expenses paid in the operation and repair of an automobile used in making professional calls, dues to professional societies, and subscriptions to professional journals, the rent paid for office rooms, the expense of the fuel, light, water, telephone, etc., used in such offices, and the hire of office assistants. Amounts expended for books, furniture and professional instruments and equipment of a permanent character are not allowable as deductions. In the deductions from gross income, the law specifically bars personal living or family expenses. In the case of a professional man who has a regular place of business and who rents a residence, but incidentally receives there clients, patients or callers in connection with his professional work, no part of the rent at his home is deductible. If, however, he uses part of the house for his office, such portion of the rent as is properly attributable to such office is deductible.

The uncollectible bills of professional men, particularly doctors, dentists, and lawyers, have a very important bearing on the net earnings for each year. The principal point in connection with such accounts made in Income Tax procedure is that there can be no allowance for such debts in returns figured on the "cash basis." That is, a person who has been making his annual returns on the basis of cash received and actual cash expenditures each year has never shown as income his accounts with patients or clients, and is not entitled, therefore, to take them out of income. On the other hand, a person who annually figured his gross income on the "accrual basis," that is, included his cash receipts and charges against patients and clients for all of his services performed during each year, is entitled to a deduction for "bad debts" covering such accounts as he ascertained during the year were uncollectible and charged off on his books. An account merely written down or a debt known to be worthless prior to the beginning of the taxable year is not a proper item for deduction.

A reasonable allowance for the wearing out and obsolescence of instruments and equipment is allowed. The proper allowance is that amount which should be set aside for the taxable year in accordance with a consistent plan by which the total of such amounts for the useful life of the property will suffice, with the salvage or scrap value, at the end of such useful life, to provide in place of the property its cost or its value as of March 1, 1913, if acquired by the taxpayer before that date. When through some new invention, or radical change in methods, or similar circumstance the usefulness in his profession of some or all of his instruments or other equipment is suddenly terminated, so that he discards such assets permanently from use, he may claim as a loss in that year the difference between the cost (reduced by reasonable adjustment for wear and tear, which it has undergone, and its salvage value. If the apparatus was owned prior to March 1, 1913, its fair market value on that date should be considered, instead of its cost, in figuring obsolescence. The deduction is allowed by law, but the taxpayer must be able to substantiate any claim made on this basis.

POSTGRADUATE MEDICAL INSTRUCTION AT THE UNIVERSITY OF WISCONSIN.

In a recent issue of the Journal we commented editorially on the postgraduate medical courses of Harvard University given at Springfield and Worcester, Massachusetts. This excellent policy of making advanced medical instruction more easily available to physicians has been adopted by a number of institutions throughout the country. Our attention has been called recently to the Department of Medical Extension of the University of Wisconsin, which offers for the fourth year during 1919-1920 postgraduate medical instruction. The purpose of these courses is to provide for physicians practical demonstrations of the newer methods of diagnosing and treating disease. Clinics are held at a conveniently located hospital, illustrated lectures are given, and there is offered an opportunity for consultations with specialists. By the coöperation of local physicians and the chief of the organization, arrangements may be made for a single clinic and lecture or for a series of weekly, bi-weekly, or monthly clinics and lectures. In order to meet the expense of conducting the courses, a small fee is required of physicians enrolling for the course, and a small appropriation has been made by the state legislature. Courses, consisting of one clinic and one lecture, are offered in various departments of medicine: internal medicine, pediatrics, dermatology, and syphilis, neurology, and psychiatry, genito-urinary diseases, orthopedics, laboratory diagnosis, diseases of the eye, diseases of the ear, nose and throat, roentgenology, obstetrics, and gynecology. This method of extending advanced medical instruction has been commended and found helpful by a large number of physicians.

The Massachusetts Medical Society.

REPORT OF JOINT COMMITTEE ON STATE AND NATIONAL LEGISLATION.

THE Joint Committee on State and National Legislation of the Massachuetts Medical Society and the Massachusetts Homeopathic Medical Society report the following matters of general interest before the Legislature:

The State Department of Health has presented to the Legislature nine recommendations for legislation (House 199).

The first deals with the appointment of school nurses in cities and towns. House 200 requires the appointment of one or more school nurses in addition to the appointment at present required of one or more school physicians in every city or town. The bill which has been referred to the Committee on Education is as follows: "The school committee of every city and town in the commonwealth shall appoint one or more school physicians and nurses, and shall assign one of each to each school in its city or town, and shall provide them with all proper facilities for the performance of their duties as prescribed in this act; and shall assign one or more physicians to perform the duty of examining children who apply for health certificates in accordance with this act: *provided, however,* that in cities wherein the board of health is already maintaining or shall hereafter maintain substantially such medical inspection as this act requires, the board of health shall appoint and assign the school physician and school nurse.

Nothing in the bill would prevent two or more small towns employing the same nurse or prevent them from using the same nurse for other forms of public health nursing.

The second deals with cleanliness and sanitary control of food establishments. The bill advocated would control the sanitary conditions of food factories as well as of stores and all places of food distribution.

The third recommendation is that monthly reports of food held in cold storage warehouses be made to the State Department of Health, and that information be given regarding the periods during which any food has been held in cold storage before being brought into the State.

The fourth recommendation is solely of administrative interest.

The fifth recommendation is that a poison label be required on all wood alcohol or denatured alcohol and on external remedies likely to contain methyl alcohol and that drugs intended for internal use be made without methyl alcohol.

The sixth recommendation grants to cities and towns the right to establish centres for preventive health work, such as pre-natal clinics, well-baby clinics, nutrition clinics, as well as dental and nose and throat dispensaries. The legislation suggested places no compulsion on any community. Any money appropriated would be expended under direction of the local Board of Health (House 205).

The seventh recommendation deals with advertisements and sales of remedies for venereal diseases. At present objectionable advertisements cannot be prevented because of the necessity of proving statements they contain to be untrue.

The bill (House 206) has been referred to the Joint Judiciary Committee. The advantages of doing away with the advertisements of quacks who appeal to the credulity and fears of the public are obvious.

The bill is as follows:

SECTION 1. Whoever publishes, delivers, distributes, or causes or permits to be published, delivered, or distributed, any advertisement relating to the treatment, cure, or mitigation of any venereal disease or of any disease of the sexual organs, shall be punished by a fine of not less than fifty dollars nor more than five hundred dollars or by imprisonment for not more than six months or by both such fine and imprisonment. The provisions of this act shall not apply to the printing or delivering in sealed packages outside of this commonwealth of books, pamphlets, or circulars containing such advertisements, nor to newspapers printed outside of this commonwealth.

SECTION 2. The provisions of this act shall not apply to any matter relating to venereal diseases or to diseases of the sexual organs published, delivered, or distributed by state, federal or municipal health authorities.

The eighth recommendation is for an increase in the salaries of the district health officers to a maximum of $4800 and at the option of the commissioner a decrease in their number from eight to six. Under present conditions desirable candidates are not attached and present officers are tempted to other states.

The ninth recommendation is one concerned with administration.

The Board of Registration in Medicine present House Bill 109 which has been referred to the committee on public health. It provides for the Limited Registration of Internes and Medical Officers in State, Municipal, and Charitable Institutions. The Board of Registration states the need of legislation in House 108 as follows:

Several States have adopted the custom of granting limited registration to physicians temporarily residing therein, for the accommodation of applicants who might otherwise have to wait some months for an examination. In this Commonwealth, however, examinations are conducted so often that there seems to be no urgent need of limited registration except for hospital officers. Hospital organizations require resident practitioners able to carry on the functions of physicians during their term of appointment, and yet some of these house officers do not expect to remain in this Commonwealth beyond their term of hospital service.

It also happens that it is necessary to install practitioners from other States in our State institutions to fill vacancies, and there has been a reasonable demand for emergency registration to physicians to meet these needs, for it might happen that an appointee would be in danger of unintentional violation of law.

The Board therefore recommends the passage of legislation which will relieve this situation, and presents the accompanying bill."

The bill which has been approved by the Joint Committee on Legislation is as follows:

SECTION 1. An applicant for limited registration under this act, who shall furnish the board of registration in medicine with satisfactory proof that he is twenty-one years of age or over and of good moral character, and that he has creditably completed not less than three and one half years of study in a legally chartered medical school in good standing which has the power to grant degrees in medicine, and that he has been granted an appointment to the position of an interne or medical officer in a hospital or institution maintained by this Commonwealth, or a municipality thereof, or in a hospital incorporated under the laws of this Commonwealth may, upon the payment of a fee of five dollars, be registered by the board of registration in medicine, as a hospital medical officer for such time as may be prescribed by the said board, but such limited registration shall only entitle the said applicant to practice medicine in the hospital or institution designated on his certificate of limited registration, and under the regulations provided by such hospital or institution.

SECTION 2. Nothing in this act shall be construed to conflict with or repeal the requirements and regulations of chapter seventy-six of the Revised Laws and amendments thereto.

SECTION 3. This act shall take effect upon its passage.

House Bill 233 has already been brought to the attention of readers of the JOURNAL. It will be advocated by the Committee. It is as follows:

SECTION 6. A minor under fourteen years of age who has not been vaccinated shall not be admitted to a public or private school except upon presentation of a certificate signed by a registered physician that the physician has, at the time of giving the certificate, personally examined the child and that he is of the opinion that the physical condition of the minor under fourteen years of age is such that his health will be endangered by vaccination. The said certificate shall state the reasons for the opinion of the physician who signs it, and shall be valid only for one year from the date thereof. A minor under fourteen years of age who is a member of a household in which a person is ill with smallpox, diphtheria, scarlet fever, measles, or any other infectious or contagious disease declared by the department of public health to be dangerous to the public health or of a household exposed to such contagion from another household as aforesaid, shall not attend any public or private school during such illness until the teacher of the school has been furnished with a certificate from the board of health of the city or town, or from the attending physisian of such person, stating that danger of conveying disease by the child has passed.

SECTION 2. This act shall not be construed to affect the rights of any foreigner admitted to this country under treaty stipulations which are inconsistent herewith.

Senate Bill 32 accompanying the petition of John J. Mahoney relative to the duties of school physicians adds the following clause:

"Every such physician shall, at the request of the teacher, parent, guardian, or next friend of a child examined by him, prescribe in writing for such child such medicine or treatment as the health and welfare of the child may in his judgment require."

Section 2 would then read as follows:

Every school physician shall make a prompt examination and diagnosis of all children referred to him as hereinafter provided, and such further examination of teachers, janitors and school buildings as in his opinion the protection of the health of the pupils may require. Every such physician shall, at the request of the teacher, parent, guardian or next friend of a child examined by him, prescribe in writing for such child such medicine or treatment as the health and welfare of the child may in his judgment require. Every school physician who is assigned to perform the duty of examining children who apply for health certificates shall make a prompt examination of every child who wishes to obtain an age and schooling certificate, as provided in section sixty of chapter five hundred and fourteen of the acts of the year nineteen hundred and nine, and who presents to said physician an employment ticket, as provided in said section, and the physician shall certify in writing whether or not in his opinion such child is in sufficiently sound health and physically able to perform the work which the child intends to do.

This would at once change the entire status of the school physician. Instead of simply detecting and reporting to the parents conditions which in his judgment tended to impair the health of a child, he might be called upon, with no knowledge whatever of family or previous history, to treat the child. He might institute treatment which would be contrary to the best judgment of the family physician, who knew all the facts which the school physician could not learn.

The dangers involved in allowing a teacher to request a physician to treat a child without the knowledge and consent of a parent are too obvious to require notice.

This bill has been referred to the Committee on Education.

HAMPSHIRE DISTRICT MEDICAL SOCIETY.

A special meeting of the Hampshire District Medical Society was held at Boyden's Restaurant, Northampton, on January 14, at 11.30 A.M.

Dr. Frederick Bryant of Worcester gave a lecture on "Radium and Malignancy" or "The Cancer Problem," which was illustrated by lantern slides showing various cases, and the process of obtaining radium from the ore. He strongly emphasized early treatment of cancer, and mentioned other conditions in which radium therapy was useful. Tubes of radium were demonstrated and their emanations described.

The meeting adjourned at 1 P.M. for lunch.

E. E. Thomas, *Secretary*.

NEWS ITEMS.

Dr. E. H. Hughes, who has been practising temporarily in Northampton since his return from France after having two years' service in the Army, has moved to Turners Falls, where he intends to settle.

Dr. W. J. Collins has resigned from the staff of the Dickinson Hospital. Dr. Collins has served the hospital for 13 years, during which time he has devoted his attention to internal medicine and laboratory diagnosis.

Dr. and Mrs. J. D. Collins leave Northampton on February 1, for Arizona and plan to make an extended trip through the Southwest, returning about April 1.

Correspondence.

MATERNITY BENEFITS.

Everett, Mass.

Mr. Editor:—

To my mind it is unfortunate that in the consideration of many proposed welfare movements requiring medical service, the medical profession is often placed unfairly on the defensive and its members are asked to administer a remedy which they have not chosen, and often cannot approve, to relieve a condition diagnosed by those whose actual knowledge of the past, present, and future needs of human beings is often less than their own.

I think most physicians will agree that there are many, if not a large number, of mothers who do not receive the needed prenatal care and advice or the best of care during and following confinement and convalescence.

There is likely to be some difference of opinion between the M.D.'s and the Ph.D.'s as to the relative degree of responsibility for this condition, attributed to present industrial conditions, to the failure of one or both parents to measure up to a grown-up standard of physical, mental and moral efficiency, to ignorance, to unavoidable misfortune, or to the failure of the medical profession, either as individuals or as a class, to meet the full requirements.

When social insurance was debated at the State House, the medical plea was for delay until the subject received further study. Has any concerted effort been made to study this question by a determination of actual conditions so far as it is practicable to do so?

The criticism was made at the hearings that the medical profession offered no constructive plan for remedying bad health conditions assumed to exist.

(See Senate Doc. No. 244, Rep. Com. on Social Insurance, Jan. 15, 1918, page 57, line 6.) The fundamental basis for advocating health insurance was that the workers did not earn enough to pay for needed medical care at present rates, forgetting that the net return to the average worker, on the proponents' own estimate of cost, would be only about $1.00 per month, while, at retail rates, the average user of alcohol spent in Massachusetts $5.00 monthly. Health insurance was advocated by the A. A. L. L. on an economic basis, while I suppose that maternity care is advocated on the basis of child conservation.

It is, I think, common medical observation that, barring accidents or unavoidable misfortune, the few weeks' care before and following confinement is only a very small part of the burden required for the proper upbuilding of the child of the mother who requires public help during confinement. When will the necessity for aid end? Just now the state will have something of a problem to enforce prohibition and the suppression of venereal disease. When alcohol and venereal disease are eliminated, I think there will be more independents and less dependents. The state is strongest when it has the largest proportion of self-supporting citizens, able unaided by public help to rear and provide for a family of children.

I can see no hope of socialism turning dependents into independents. Personally, I believe there is a serious problem involving the making of dependents into independents that interests society and that the medical profession is better qualified to determine the underlying causes of dependency than any other group. (Better than the Ph.D.'s.)

There have been several bills in the Legislature recently to extend the scope of the school inspection law, and I believe, with some changes in the present law and its general enforcement, with state supervision and with the coöperation and help of the medical profession generally, it would be possible to collect sufficient data within a few years concerning school children and their home surroundings, that would give a basis for intelligent action based on facts. If intelligently administered and in *exceptional cases* provision given for actual treatment, I think much could be done at a reasonable expense and without any radical legislation.

A health survey taken on a midweek half-holiday, digested and compiled on Thursday and Friday, published on Saturday in the hope that it will be applied over Sunday, and everybody at work and happy on Monday, is not going to cure many human ills.

If the cry of expectant mothers is so clamorous on Beacon Hill that something must be done at once, could not provision be made that the truly needy cases be assisted by the state along the line of the present law for dependent mothers?

G. E. WHITEHILL, M.D.

A PHYSICIAN NEEDED.

The following letter from the Town Clerk of Washington, Mass., is published in the hope of attracting the attention of some practitioner to the sore need of that town for medical attendance.—*Editor.*

Washington, Mass., Dec. 16, 1919.

COMMITTEE ON PUBLIC HEALTH OF THE MASSACHUSETTS
MEDICAL SOCIETY, BOSTON,

Dear Sirs:—

I am writing your Committee, thinking that the subject may be in line with your duties in regard to the protection of health in the towns of Becket and Washington.

Both towns have been practically without a doctor since last spring, and the nearest doctors to be had live in Chester or Hinsdale, about eight to ten miles from the center of population in need of attendance.

While the roads were good there was little trouble to get a doctor, either from Chester or Hinsdale, but since the roads became muddy, which they have been for the past three months, it is almost impossible to get any doctor to come out.

There have been several cases in this town lately seriously in need of a physician's care, but none could be got for love, money, or humanity's sake. One old lady was taken with indigestion, in the evening. When the Dalton doctor was called, he could not attend. The Hinsdale doctor could not come. Then they tried two Pittsfield doctors and neither could attend, the result being that the party had to telephone to the son to get a car and bring a doctor if he wanted to see his mother alive, so he routed out Dr. McCay of Dalton, about four o'clock in the morning. When he arrived the lady was almost gone with suffering. Another case in the same neighborhood was taken sick with the same result, that no doctor would attend. If the patient could be brought to Pittsfield to the hospital they would attend to her. They tried to get an automobile to take her. One party said his car could not go over the mountain and another asked twelve dollars for six miles and return to Pittsfield. Finally, an easy-riding buggy was secured and the lady conveyed to the hospital under severe suffering.

The above is a true illustration of conditions existing in the outlying districts. Of course those living in villages near a railway station have no difficulty, as a physician can be had by train almost anytime. Before the advent of the automobile there was always one doctor, sometimes two, in Becket Village and one could generally be got at any time, even in the worst of weather. I had occasion to call one in a case of typhoid fever when the temperature rose to 106°. Then the doctor drove to within a mile of my house and walked the rest of the way through the snow.

I am writing this to see if your Committee cannot do something to induce a doctor to settle in Becket. There has been talk of getting a petition headed by the selectmen and forwarded to the health authorities but none seem to take any action.

We read and hear so much about care of health, sanitation of houses and schools, industrial hygiene, and visiting nurses one would think there is no need for doctors otherwise than for the above and operations in the hospitals, the easiest way to make a living.

As in all other business one would think the doctors were on strike. When we consider the amount of money that has been raised lately for the Red Cross and other Associations, for the assistance of Armenians and such, surely something should be done to relieve circumstances at home. It would be better than nothing if it could be done through a Legislature so that the town or towns, with State assistance, would be compelled to support a doctor according to the district. If something of this sort is not taken in hand we in this locality will have to become Christian Scientists.

Trusting that your committee can do something to relieve the situation, I am,

Very truly yours,
JOHN B. WATSON, *Town Clerk*,
Washington.

NOTE.—Becket had a population of 973 in 1915; Washington had a population of 275 in 1915.

Miscellany.

UNITED STATES CIVIL SERVICE EXAMINATION.

PHYSICIAN, PANAMA CANAL SERVICE.—The United States Civil Service Commission announces an open competitive examination for physician on February 18, and March 17, 1920. Vacancies in the Panama

Canal Service at the salaries indicated, and in positions requiring similar qualifications, at these or higher or lower salaries, will be filled from this examination, unless it is found in the interest of the service to fill any vacancy by reinstatement, transfer or promotion.

The entrance salary is $200 a month; promotion may be made to $225, $250, $275, $300, and higher rates for special positions.

Both men and women, if qualified, may enter this examination, but appointing officers have the legal right to specify the sex desired in requesting certification of eligibles. For the Panama Canal Service male eligibles are desired.

Applicants must be unmarried; must have graduated from a recognized medical school whose graduates are eligible for commission in the United States Army; and must have had at least one year's postgraduate hospital experience.

Statements as to training and experience are accepted subject to verification.

Applicants must have reached their twenty-second but not their thirty-first birthday on the date of the examination. Age limits do not apply to persons entitled to preference because of military or naval service.

Applicants must submit to the examiner on the day of the examination their photographs, taken within two years, securely pasted in the space provided on the admission cards sent them after their applications are filed. Proofs or group photographs will not be accepted. Photographs will not be returned to applicants.

Before being permitted to sail for the Isthmus, appointees must undergo a rigid physical examination by a designated physician after the appointment has been actually issued. There will be no charge for this examination, but the appointee must pay his transportation to the place of examination. The official physicians are located at the ports of departure and in a number of the large cities throughout the United States.

This examination is open to all citizens of the United States who meet the requirements.

Applicants should at once apply for Form 1312, stating the title of the examination desired, to the Civil Service Commission, Washington, D.C. Applications should be properly executed, including the medical certificate, but excluding the county officer's certificate, and filed with the Commission at Washington, D. C., in time to arrange for the examination at the place selected by the applicant.

The exact title of the examination should be stated in answer to Question I on the application form.

Applicants entitled to preference should *attach to their applications* their original discharge, or a photostat copy, or certified copy thereof, or their official record of service, which will be returned after inspection by the Commission.

NOTICES.

Boston City Hospital.—A clinical staff meeting will be held in the Cheever Surgical Amphitheatre, Boston City Hospital, February 12, at 8 p.m., with the following program:

Demonstration of cases.

"Malnutrition in Children, with Special Reference to the Out-Patient Department," Dr. W. R. P. Emerson.

Discussion by Dr. John L. Morse, Dr. E. N. Libby, and Dr. H. Arnold.

Medical students and physicians are cordially invited.

H. A. Nissen, M.D., *Secretary.*

CITY OF BOSTON HEALTH DEPARTMENT.

Hospital and Ambulance Service for Influenza and Pneumonia Cases.

To Physicians and to Managers of Hospitals.

Hospital and Ambulance Service to be Conserved.

The committee appointed to provide hospital accommodations for patients suffering from influenza and pneumonia has recommended to the several hospitals that beds be made available for such cases by limiting the admission of other medical patients and of surgical patients to emergency cases; and that physicians limit their applications for hospital accommodations for patients suffering from influenza and pneumonia to those who cannot receive adequate care and treatment at home.

I am bringing this recommendation to the attention of the medical profession of Boston and ask the fullest possible coöperation in this matter.

How to Obtain Hospital Accommodations.

In order to facilitate the procuring of hospital accommodations for influenza and pneumonia patients in actual need of such accommodations, a Hospital Service Bureau has been established in the Health Department. Arrangements for hospital care can be most expeditiously made through that Bureau, Room 110 City Hall Annex, telephone Fort Hill 5100, where a register of available beds in the various hospitals is kept and from which patients are now being assigned. This Bureau is open from 8 o'clock a.m. until 11 o'clock p.m. daily, but should circumstances seem to make that course necessary, it will be kept open throughout the night.

An ambulance service is operating in connection with this Bureau and the speedy removal of patients in appropriate cases is thus assured.

William C. Woodward, *Health Commissioner.*

SOCIETY NOTICES.

The Massachusetts Therapeutic Massage Association.—The next meeting will be held at the Hotel Brunswick, Venetian Room, at 7.45 p.m., on Tuesday, February 17. Trustees meet at 7.30.

Dr. Howard Moore, orthopedic surgeon, has kindly consented to talk to the Society on "Massage for Orthopedic Cases."

Members of the medical profession invited.

Douglas Graham, M.D., *President,*
Agnes J. Kerr, *Secretary.*

Suffolk District Medical Society, Surgical Section.—The next meeting of the Surgical Section, Suffolk District Medical Society, will be held on February 18, 1920, at 8.15 p.m., at the Boston Medical Library. Dr. John A. Hartwell, Clinical Professor of Surgery, Cornell University Medical College, and Director of Surgery, Bellevue Hospital, will present a paper. Subject, "Abscess of the Lung." A discussion will follow the reading of the paper. It is hoped that all those present will participate.

Richard H. Miller, *Secretary.*

RECENT DEATHS.

Dr. James Henry Breen died at his home in Hudson, Massachusetts, November 3, 1919, aged 41 years. He was a graduate of the Tufts College Medical School in 1906, and was a Fellow of the Massachusetts Medical Society.

Charles Albert Church, M.D., of Millbury a Fellow of the Massachusetts Medical Society, was killed at a railway crossing January 13, 1920. He was a graduate of the Medical Department of the University of Vermont in 1884 and was 60 years old. He settled in Millbury in 1895, joined The State Medical Society and later served it as councilor.